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THE NATIVE CULTURE OF THE MARIANAS ISLANDS

BY
LAURA THOMPSON

BERNICE P. BISHOP MUSEUM
BULLETIN 185

HONOLULU, HAWAII
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The Native Culture of the Marianas Islands

By LAURA THOMPSON

INTRODUCTION

The Marianas Islands, discovered by Magellan in 1521, soon became an important stopping place for procuring fresh water and food on the long voyage across the Pacific from America to the Philippines. However, although the islands were visited by many of the early world voyagers and became a regular port of call for the Manila galleons as early as 1565, the natives and their culture remained little disturbed for a century and a half. The real clash with western civilization did not begin until 1668, with the arrival of a band of Jesuit missionaries and Spanish soldiers who founded the first permanent Christian mission. At this time the islands were thickly populated (3,¹ vol. 10, p. 262). Jesuit reports give the estimated number of natives as about 100,000 (14, April 1937, pp. 20-31; for further information, see Thompson 29, pp. 28-36).

The missionaries were favorably received by the natives, but their attempts to suppress deep-rooted traditional customs resulted in stiff resistance. However, Jesuit teachings were backed by a force armed with gunpowder; and after about 30 years of bloodshed, during which the population was greatly reduced, the natives finally succumbed to Spanish domination. The population was reduced still further by destructive typhoons in 1671 and 1693, a devastating epidemic in 1700, migrations to the Caroline Islands, and other factors. In 1710, according to the first recorded census, only 3,678 Chamorros survived in the Marianas (7, p. 150).

During the next two centuries the natives mated with Spaniards, Filipinos, and others, and a mixed population completely replaced the indigenous one. Also, in time, the native culture blended with influences chiefly from Spain, the Philippines, and the United States, into a new pattern. Today only the Chamorro language (12, 13, 21, 25, 32), with alterations and accretions from the Spanish, persists as an integrated functioning link between the ancient and modern native culture of Guam.

SCOPE

The Marianas Islands present practically a virgin field to the social scientist. Not only is there a dearth of material regarding the modern natives and their

¹ Numbers in parentheses refer to Literature Cited, pp. 45-46.

culture, but few systematic investigations have been made concerning the culture history of the group. The following study grew out of an inquiry into the history of Guam in an attempt to understand the modern natives and their culture in its historical setting. It has been designed as a supplementary volume to document my previous work on the Marianas, namely "Guam and its People" (29) and the "Archaeology of the Marianas Islands" (28). In it I have tried to present critically all the significant data on the native culture of the ancient Chamorros to which I have had access. These include some archaeological and ethnographic material obtained in Guam through field investigations, and archaeological collections and historical documents concerning the Marianas in Bishop Museum and the Guam Museum. Other sources, especially those of Spanish administrators deposited in the Library of Congress, may yield further important information on the subject. Data from adjacent regions, while mentioned occasionally to add clarity or interest, have been treated as of secondary value, and the study has been limited to a descriptive rather than a comparative work.

Since the data are necessarily incomplete, the present study is of uneven value. Descriptions of the ancient Chamorros and the material aspects of their culture, such as their methods of subsistence, canoes, stone and shell work, pottery, weapons, and methods of disposal of the dead, are consistent and reliable; whereas the available data concerning the non-material side of life, such as social organization and religion, are fragmentary and questionable.

Further light will be thrown on the ancient Chamorros and their culture by systematic detailed investigation, classification, and comparative studies of the following: the archaeology of the Marianas Islands, the skeletal material, the Chamorro language, additional historical sources, and the ethnography of the modern natives. It is hoped that the present study will not only define some of the problems, but that it will stimulate further research along these lines, and provide background material which will contribute to an understanding and enlightened administration of the modern Chamorros since their liberation from Japanese rule.

SOURCES²

For the first 150 years after the discovery of the Marianas the only available documents concerning the natives and their culture, still practically untouched by outside influences, are fragmentary accounts in the journals of early voyagers and missionaries who stopped at the islands for a few days on their way from New Spain to the Philippines. These are brief, superficial, and frequently inaccurate, but when used with caution they throw some light on the subject. Most of them have been translated and summarized in Blair and Robertson or in Burney or both. Particularly valuable accounts for this

² For a recent but incomplete bibliography of Guam, see Reid (23).

purpose are those of Pigafetta, Magellan's historian (1521), the Loyasa voyage (1526), Urdaneta, Gaspar and Grijalva of the Legazpi expedition (1565), Pretty with Drake (1588), and the Nassau Fleet (1625).

"Vida y martirio de el venerable Padre Diego Luis de Sanvitores", the most extensive source on early native life, was written by Garcia from the notes and letters of Father Sanvitores, a Spanish Jesuit who led the first permanent mission and settlement in the Marianas. Sanvitores lived in the group with his headquarters at Agana, Guam, from 1668 until he was martyred by the natives in 1672. Although his account is highly colored by a seventeenth century missionary bias, from it may be gleaned considerable information concerning native life. A translation of Garcia by Margaret Higgins, published in the Guam Recorder, has been used in this study. Garcia's account, although frequently unacknowledged, has since been the principal source of information on native custom. It was used as the basis of "Histoire des isles Marianes, nouvellement converties à la religion Chretienne" by Père Charles Le Gobien, published in Paris in 1700 and widely read in Europe.

Sanvitores, however, was not the first missionary to the Marianas. A letter by Governor Don Francisco Tello (3, vol. 10, pp. 261-262) stated that in the year 1596 a religious of the Order of St. Francis disembarked from the almiranta *San Pablo*. He and his soldier companions remained in the Marianas for one year when, as the ships from New Spain, commanded by Don Lope de Ulloa, were again passing on their way to these islands, the missionary and soldiers arrived alongside the ship in boats of the "Indians" and were received on board. When they arrived in Manila the religious "gave an account of what he had seen in the islands of the Ladrones, saying that there were many islands thickly peopled with Indians, who were men of good stature, and strong. They are a tractable and kind people. They regaled him and his companions, and showed them much respect. The land abounds in fish, rice and camotes.³ They are heathen, but if the religious would enter them with love and tactfulness they would teach them." No further data concerning the Franciscan have been found. His observations, however, would undoubtedly provide valuable information concerning native life.

After the reduction of the population and the introduction of Christianity and Spanish culture, the islands continued to be visited frequently by travelers, but their observations become increasingly less valuable for the purpose of this study.

In the nineteenth century, however, there appeared a series of reports by scientists and administrators which throw some light on contemporary native life and history. The accounts of Chamorro custom by Chamisso (1818), Freycinet (1819), and Dumont d'Urville (1828 and 1839), are obtained chiefly

³ Evidently yams. Sweet potatoes were introduced into the Marianas in historic times (Safford, 26, p. 98).

from Luis de Torres, the Guam-born descendant of a Spanish navigator, for many years second in rank to the governor in the Marianas. Torres was a lifelong student of Chamorro history and culture. He was also interested in the Caroline Islanders, who visited Guam in 1788, and he arranged for their subsequent settlement in the Marianas. Although Freycinet's data have been quoted frequently in this present work, since many aspects of the ancient culture have been treated only by him, one should bear in mind constantly that his report was not recorded until 1819, 150 years after the Spanish conquest. His descriptions of the non-material aspects of Marianas culture are particularly open to question.

Of several valuable reports by Spanish officials, including those of Villalobos (1828-1835) and Medinilla (1818-1822), only "Memoria descriptiva é historica de las Islas Marianas" by Corte y Ruano Calderon (1855-1866) is available to me. As Governor of the Marianas for 11 years, Corte made a careful and thorough study of native life, history, and administration.

William Edwin Safford, who spent a year in Guam (1899-1900) as Aide to the first American Governor, has furnished careful historical studies and observations concerning native life, as well as scientific reports on the natural history of the island.

The principal sources of information concerning the archaeology of the Marianas are the Bishop Museum collection of 10,000 specimens and the unpublished notes and illustrations of Hans G. Hornbostel, collector for Bishop Museum in the Marianas Islands for several years in the 1920's. Although Hornbostel was not professionally trained, his records of excavations and archaeological sites, some of which I have checked in the field, are detailed and appear to be, in general, accurate. I have already described this collection in detail (28).

Hornbostel was assisted by his wife, Gertrude Hornbostel, a German born in the Marianas. Mrs. Hornbostel's knowledge of the Chamorro language and people, as well as her talent for sketching, were great assets in the work. Her observations of native custom, her recordings of Chamorro texts, and her translations are important contributions.

The most spectacular of the archaeological remains in the Marianas are the famous *latte*, which were apparently house and canoe shed sites (30). Scores of these sites can be found and examined today along the shores and water courses, hidden by heavy jungle growth. Each *latte* consists of two straight parallel rows of limestone or stone uprights, which have been set according to a uniform rectangular pattern—11 or 12 feet between the rows and the same distance between the stones in each row. Apparently each upright was formerly surmounted by a coral or stone cap but most of these have been displaced by earthquakes (pl. 3, *A*, *B*). The height of the capped uprights, although tending to be constant in a single site, ranges from three to 16 feet

in various sites throughout the group, as far as has been determined. Buried between the rows and frequently between the site and the shore are human skeletal remains (pl. 3, *C*), potsherds, and stone implements.

Skeletal material, implements, potsherds, evidences of fire, and pictographs have also been found in caves, which occasionally show the ruins of stone-wall fortifications. In the Bishop Museum collection from the Marianas are many other finds from the surface of the ground and below it. These include adzes, gouges, pounders, pestles, mortars, slingstones, knives, and sinkers of stone; adzes, gouges, scrapers, ornaments, disks, and fishhooks of shell; potsherds and slingstones of earthenware; and spear points of bone. No objects of tortoise shell have been reported. This material evidently has not survived the weathering of centuries.

Most of the data concerning the modern Chamorros was obtained during a six months' field trip to Guam, in 1938 and 1939. The field research, devoted mainly to a project in applied anthropology, was made possible by grants from the University of Hawaii, the International Council of the Institute of Pacific Relations, the Social Science Research Council, and the United States Naval Government of Guam.

I wish to express my sincere appreciation to the officials of these organizations and especially to Captain James T. Alexander, U.S.N., former Governor of Guam and Commandant of the Naval Station, and other officers of the Naval Government of Guam for their kindness, interest, and assistance in the field work. I express deep gratitude to Dr. H. E. Gregory, former Director of Bernice P. Bishop Museum, to Dr. Peter Buck, the present Director, and to the members of the Board of Trustees of the Museum for the use of the Hornbostel collection and unpublished field notes and for publication of the manuscript. I am indebted also to the American Council of the Institute of Pacific Relations for permission to reproduce certain details of native life from "Guam and its People" (29).

THE CHAMORROS

PHYSICAL TYPE

According to early reports, the Chamorros were tall, big-boned, and robust, with tawny skins and long black hair (3, vol. 2, p. 110; vol. 33, p. 97; 5, p. 178). The women were "good looking and delicately formed, and lighter complexioned than the men", according to Pigafetta (3, vol. 33, p. 97), Magellan's historian; and the children were born white. Sanvitores (14, April 1937, p. 21) wrote: "The Marianos are in color a somewhat lighter shade than the Filipinos, larger in stature, more corpulent and robust than Europeans, pleasant and with agreeable faces. They are so fat they appear swollen.

They remain in good health to an advanced age and it is very normal to live ninety or one hundred years . . .”

Early reports stress the physical strength and agility of the natives. According to Mendoza (3, vol. 6, p. 138), “All of these islands are inhabited by light-complexioned people of pleasing and regular features, like those of Europe, although in their bodies they do not resemble the latter for they are as large as giants, and of so great strength, that it has actually happened that one of them, while standing on the ground, has laid hold of two Spaniards of good stature, seizing each of them by one foot with his hands, and lifting them thus as easily as if they were two children.” Gaspar, who visited Guam with the Legazpi expedition (1565), stated (4, vol. 1, p. 528) that “they were such expert swimmers, and passed so much of their time in the water, that, as among other animals, some are amphibious, in like manner it seemed as if these people were in their nature amphibious.” [See also Cowley (8, pt. 2, p. 19) and Mendoza (3, vol. 6, pp. 141-142).] They were adept at catching fish by hand (3, vol. 2, p. 113), at manipulating their swift sailing canoes, and at hurling slingstones, which were thrown with such force that they outdistanced the Spanish firearms and frequently lodged in the trunks of trees (3, vol. 3, p. 192; 14, April 1937, p. 38). Even today in Guam, the physical strength of the ancestors figures in old tales (Thompson, 28). The following tale, recorded in Guam, is typical.

Two rival nobleman of Agana agreed that the stronger should become chief. One squeezed a rock and a drop of water fell from it. The other threw a rock and it flew through the air like a bird. Then they fell upon each other with clubs. The loser fled to Tuman, whence he leapt to the island of Rota and left a footprint in the rocks of the point.

Skeletal remains of the prehistoric Chamorros are found in *latte*, caves, and burial urn sites (28, pp. 8, 20, 31), but their physical type has not yet been studied and classified systematically. A series of 88 Chamorro skulls in Bishop Museum has been described by Wood Jones (33), and Leigh (19) has studied the teeth of many of the same collection. According to Leigh (19, pp. 260, 261), the dentitions and the skulls are homogeneous and there is sub-nasal prognathism. He groups the Chamorros with the Mongoloid stock (19, p. 260), but neither he nor Wood Jones discuss their racial classification.

No full-blooded natives of the early type survive in the Marianas today. Judging from historical accounts, however, the ancient inhabitants resembled Polynesians rather than Malaysians. Moreover, in the rural districts of Guam many individuals of a type which resembles that described above can be distinguished. They are taller, heavier boned and darker skinned than most of the modern Chamorros who live in the capital town of Agana and around the port of Apra (pl. 2, *A, B*). Here the natives are predominately Malayan in type with light brown skins, brown eyes, coarse black hair, and fine bones.

TEMPERAMENT

Early accounts give a vivid picture of the Chamorro temperament. They were "kind and tractable people" when treated with consideration, according to the Franciscan missionary who lived in the Marianas from 1596 to 1597 (3, vol. 10, p. 262), and who believed that "if the religious would enter them (the Marianas) with love and tactfulness they would teach them." They were respectful and well mannered, judged by their own standards of etiquette, and they were "liberal and obliging to guests" (14, April 1937, p. 39). They were also ingenious and quick to learn anything to which they applied themselves. Moreover, they were easily pleased, noisy, laughter-loving and gay, even to the point of death,⁴ and they took great delight in jokes, mimicry and buffoonery, traits marked also in the modern natives of Guam (29). They were great gamblers and traders, fond of competitions, dancing, and feasts (14, April 1937, p. 38), and they loved to outwit a rival. This they accomplished by singing satirical songs, by mimicry, and by strategy in trade and war.

The competitive playfulness of the Chamorros was frequently resented by visitors and led to the condemnations of their character found in many accounts. Medina stated, "And not few were the jests that our Spaniards endured from that people [the Chamorros] . . ." (3, vol. 23, p. 137). (See also Mendoza, 3, vol. 6, pp. 141-142.) Typical is the following. When selling rice to the Spaniards on visiting the ships the natives increased the bulk with stones and, upon the discovery of the trick, "clapped their hands in glee and laughed long and loud, going from that vessel to another and playing the same trick" (3, vol. 2; 4, vol. 3, p. 34). Frequently Magellan's label of "ladrone" (robber) was applied to them and they were branded as inveterate thieves (3: Pigafetta, vol. 33, p. 99; Medina, vol. 23, p. 137; Mendoza, vol. 6, pp. 141-142).

Probably if sufficiently thwarted they became violent and vengeful. We know that they offered the missionaries stiff resistance. Moreover, Sanvitores wrote (14, April 1937, pp. 36, 38) :

Their nature and disposition, although at first appearing simple and bare of deceit as of clothing, gained the praise of the fathers of the Company, and they trusted the generosity and hospitality that were offered. After they had experienced more of this, however, they knew them to be deceitful and traitorous. They will cover with pleasant words and appearances any feeling of injury for perhaps two years, until they find an opportunity for vengeance. They think nothing of promises, but will do, or not do, whatever appears agreeable to them.

These traits are found to some extent in the modern natives of Guam (29).

⁴ "They killed many savages, who laughed as if it were a cause for rejoicing" (3, vol. 33, p. 322, footnote 185).

APPEARANCE AND DRESS

The ears, nails, and teeth of the Chamorros were described by Pretty (22) in 1578 as follows:

These people have the nether part of their ears cut into a round circle, hanging down very low upon their cheeks whereon they hang many things of reasonable weight. The nails of their hands are an inch long, their teeth are as black as pitch, and they renew them often, by eating an herb with a kind of powder, which they always carry about them in a case for the same purpose.

Pretty referred to the habit of chewing the narcotic betel nut (*Areca catechu*) with the pepper leaf (*Piper betle*) and lime, still common among middle-aged and aged Chamorros. It was also mentioned by Leigh (19, p. 267), who wrote that the teeth of all prehistoric Chamorro adult skulls were discolored as a result of betel chewing and that the teeth of all adult females were stained to a "shade varying from orange to blackish brown." It is possible that only the teeth of the women were blackened (Pigafetta, 3, vol. 33, p. 97). Leigh added that a cross-hatched design had been filed on the labial surfaces of the front teeth of a few individuals.

Both sexes wore their hair long at the time of discovery, according to Pigafetta (3, vol. 33, p. 97) and the report of the Loyasa voyage (4, vol. 1, p. 139), that of the men reaching to the waist and that of the women "loose and hanging quite down to the ground." We learn from the account of the Legazpi expedition (3, vol. 2, p. 110) 20 years later that "Both men and women wear their hair, which is of a yellowish color, loose and long, gathering it up behind the head." At about the same time Pretty (6, p. 328) wrote that some natives wore it "made up and tied with a knot on the crown and some with two knots." This may have been a sign of rank.

A century later Sanvitores (14, April 1937, p. 21) stated that the men did not wear long hair but shaved their heads, "leaving only a small topknot on the crown, about the length of a finger." The women, however, wore it very long and bleached it white, apparently with the lime used in other parts of Oceania. They also "anointed the body and hair with coconut . . . oil", according to Pigafetta (3, vol. 33, p. 97), who added that some of the men were bearded. The latter statement is repeated in the report of the Loyasa voyage (4, vol. 1, p. 139).

According to all accounts the men wore no clothing, not even a G string. Freycinet (10, pl. 80, fig. f; 11, pp. 308-309) stated that as a protection against the sun they donned small palm [pandanus] leaf hats ". . . as do the Albanians", according to Pigafetta (3, vol. 33, p. 97). Types of conical pandanus hats worn by men and women are illustrated by Freycinet (10, pl. 79, figs. 20, 29; 11, p. 308), and occasionally they protected their feet with sandals of palm leaf.

According to Sanvitores (14, July 1938, p. 39),

The unmarried men, for some reason of their own, were accustomed to carry walking sticks which they called *tunas*, which were curiously carved and colored with the root of a plant called *mangu*, at the head of which they affixed three streamers half a yard in length made from the soft bark of trees, with heavy threads as a trimming.

Ordinarily the women wore a fringe of grass or leaves hanging from a belt (3, vol. 2, p. 110), or a scant apron made from the inner bark of a palm according to Pigafetta (3, vol. 33, p. 97), or a palm-leaf mat according to the Legazpi account (3, vol. 2, p. 110). The dress of the women on ceremonial occasions has been described by Sanvitores (14, April 1937, p. 38) as follows:

The women . . . adorn themselves with wreaths of flowers or shells, pendants of beads made from small pink shells which they value as much as we do pearls. They also make belts of them adding pendants all around of small coconuts, and strands of tree roots, so that they look more as if they were in cages than dressed.

SOCIAL ORGANIZATION

KINSHIP GROUPS

Little information concerning the social organization of the ancient Chamorros is available, but the fragmentary data indicate that society was organized into matrilineal clans, that is, unilateral kinship groups with descent through the female line. This statement is based on data concerning kinship, descent, marriage, property, inheritance, and organization of labor in the Marianas. (See also Freycinet, 11, p. 372.) Yanaihara (34, p. 121), stated without documentation: "The Chamorro tribe of the Marianas had a gens system similar to that of the Kanaka tribe [i.e., the natives of the Carolines and Marshalls]." Until the rule of patrilineal descent was enforced in Guam by the Americans, the ancient system of matrilineal descent survived. Children took the surnames of their mothers and even today many of the older natives bear their mothers' names.

It is likely that some form of clan totemism existed in the group, in view of its widespread distribution in the adjacent islands of Micronesia, but there is no definite information concerning this point.

In this respect, it is interesting to note that eels were tabu to all but the lowest class, according to Freycinet (11, p. 443), whereas Sanvitores reported that they were not caught because of some superstition (14, April 1937, p. 19).

Each clan was composed of a number of families, usually consisting of a married couple, their children, and other near relatives. Sanvitores (14, May 1937, p. 18) stated that "they do not have many wives . . ." Within this kinship group, a strong solidarity was expressed in mutual economic, social, and ceremonial obligations which centered in the subsistence and life crises of its members.

LOCAL GROUPS

At the time of discovery the inhabitants of the Marianas lived in villages (*songsong*) and hamlets located in or near their garden lands. Sanvitores stated that the natives of Guam along the coast lived in villages of 50 to 150 huts, and in the fertile valleys of the interior in hamlets of 6 to 20 huts. He estimated that there were 180 such local groups in Guam at the time of the first permanent mission (14, April 1937, p. 21; June 1937, p. 15). His account is substantiated by the archaeological evidence, in that *latte* (apparently house and canoe shed sites) have been found in the most fertile areas of Guam, namely along the coastal plains and in the well-watered valleys of the southern half of the island.

According to Sanvitores (14, May 1937, p. 18), the nobles lived like princes, forming in each village a kind of republic in which opinions were exchanged. Village life centered in a large club house, which served as a dwelling for unmarried men (14, April 1937, p. 39) and probably also as a place of assembly and guest house, as in Yap, Palau, and other adjacent islands.

At the end of the seventeenth century the principal village of the Marianas was Agana, located at the mouth of the Agana River near Apra Harbor on the northwest coast of Guam. Here lived the nobles of highest rank, according to Sanvitores (14, April 1937, p. 36), who wrote, "There are in this settlement (Agana) fifty-three principal houses, and of others about one hundred fifty. The latter are low people and are separated from the others who give them no part in the affairs of the town or Court."

Concentration of the population around the seaport, however, probably occurred after the discovery of the island, as in the Philippines, Samoa, and other parts of the Pacific.

Each island was divided into districts composed of one or more neighboring villages united under a leader (*maga*). According to Freycinet (11, p. 473), each district was composed of a group of related nobles (namely the leader, his younger brothers, and descendants), their dependents from the commoner class, and their slaves. The highest ranking male of the group, namely the oldest noble, was the leader. He was called *maga-lahe*⁵ and his wife was called *maga-haga*.⁶ Both were accorded certain chiefly privileges and treated with great respect. Freycinet's data concerning the social organization of the ancient Chamorros is particularly open to question, since it was not recorded until 1819.

The power of the *maga-lahe* was, to a considerable extent, based on inherited wealth. He apparently controlled much, if not all, of the district lands and fishing grounds, as well as having certain wealth-getting prerogatives,

⁵ Freycinet spells the term *maga-lahi*, but since it means first-born (*maga*) son (*lahe*), the above orthography has been used for the sake of consistency.

⁶ Probably an error. Under the matrilineal system one would expect to find the chief's sister ranked as *maga-haga*. This point is substantiated linguistically, since *maga-haga* means first-born daughter.

such as the manufacture of shell "money" and of sailing canoes. At his death, which was marked by elaborate ceremonies, he was succeeded by his highest ranking male relative within the clan. Succession was through younger brothers, male parallel cousins, and nephews by order of seniority (11, p. 475).

There was a strong solidarity within the district and considerable rivalry between certain districts, the leaders of which vied with one another for power and prestige. This rivalry was expressed in warfare and ceremonial exchange, both of which were apparently highly developed in the group.

After the Spanish conquest, the most powerful leaders (*maga*) were believed to continue to inhabit and control their districts, not as ghosts but as men of supernatural strength. They were called *taotaomona*. These ghost-men have since played an important part in Chamorro life and they are still a factor in the rural districts of Guam, although their influence is declining as contacts with the outside world increase.

SOCIAL CLASSES

The concept of rank played an important part in the culture of the ancient Chamorros. There were three social classes, according to Sanvitores (14, April 1937, p. 36), who stated: "Their [the Chamorros'] barbarity is not in keeping with the great esteem they have for their nobility and their observation and discretion of lineage, high, low and middle class . . ." He added that the highest ranking nobles or chiefs were called *chamorri* and "for nothing in the world would one of their chiefs . . . marry the daughter of a plebeian, even if she were very rich and he very poor. Formerly parents killed sons who married daughters of low class families."

According to Freycinet (11, p. 364), the upper class or nobles were called *matua*, the middle class or "demi-nobles", *atchaot*, and the lowest class, *mangatchang*. As far as I can determine, Freycinet was the first to record the terms *atchaot* and *mangatchang*. He added (11, p. 378) that the *mangatchang* (lowest class) were a strictly endogamous group, smaller in stature than the rest of the natives, and set apart in the community by certain restrictions and tabus. For instance they were not allowed to become warriors, maritime fishermen, sailors, or canoe builders. Their fishing was restricted to spearing river eels with wooden-tipped spears. A *mangatchang* showed great respect to a *matua* (member of the highest class) by observing rigid rules of etiquette. He was careful to pass in a crouching position with lowered head before a *matua* and to remain squatting while talking to the *matua*. A *matua*, on the other hand, believed he degraded himself if he remained seated before one of his inferiors.

In contrast to the *mangatchang*, according to Freycinet (11, p. 365), *matua* were highly privileged and controlled wealth and exchange in the islands. They were the warriors, sailors, fishermen, professional canoe builders, and

traders of the Marianas. In these activities they were assisted by the *atchaot* (middle class). Freycinet (11, pp. 479-480, 485) stated that a *mangatchang* could never rise out of his class, but that a *matua*, if found guilty of certain offenses by a tribunal composed of the highest ranking men and women of the district, could be deprived of his property and lowered to the rank of *atchaot* for life or for a term and could be exiled from his district. An exiled *atchaot* and his family attached itself to another district with the permission of its leader.

The above evidence suggests that the lowest class were descendants of the aborigines of the Marianas, reduced to a depressed caste by immigrant maritime warriors, who established themselves in prehistoric times in a position of dominance. Their short stature, in contrast to that of the nobles, may be indicative of malnutrition due to a low standard of living rather than to a marked difference in racial type. No satisfactory evidence that they were a pygmy type, as has been claimed, has yet been found.

At the time of the first permanent mission the highest development of rank and etiquette in Guam was at Agana. The chiefs of this village were feared and respected by the inhabitants of the whole island, and an elaborate code of behavior regulated social relations and upheld their prestige. According to Sanvitores (14, April 1937, p. 36), people of low station were not permitted to eat or drink in the houses of the nobles, or even to go near them. If they needed anything they asked for it from a distance. They practised many courtesies and an ordinary usage, on meeting and on passing in front of one another was *ati arinmo* (*ati adengmo*), meaning "give me permission to kiss your feet." If one passed by a house the occupants asked him to remain and eat, and they served betel nut, a custom practised today. To pass the hand over the breast of the host was considered a great courtesy. This custom has been superseded by the *manñigñe* or "smelling the hand" of the host. The ancient Chamorros rarely expectorated and did so "with great modesty and never near the house of another, nor in the morning . . ." (14, April 1937, p. 36). Evidently spittle was used in the practice of contagious magic in the Marianas, as in many other parts of the world.

KINSHIP

We know little concerning the kinship system of the ancient Chamorros, since most of the native terms have been lost. Many relationship terms used by the Chamorros today have been taken from the Spanish language.

The following list gives the modern terms in use in Guam. Chamorro terms are marked with an asterisk. Each term should be followed by a Chamorro possessive suffix, as *tataho*, my father; *tatamo*, your (singular) father.

tatá: father (from the Spanish term)
 nana: mother (from the Spanish term)
 *lahe: son
 *haga: daughter
 *patgon: child
 *chelo: sibling (*chelo-lahe*, brother; *chelo-palaoan*, sister)
 *bihu, biha: generic terms for male ancestor, female ancestor, including grandfather, grandmother
 guelo, guela: grandfather, grandmother (from the Spanish *abuelo*)
 nieto, nieta: grandson, granddaughter (from the Spanish term)
 tío, tía: uncle, aunt (from the Spanish term)
 primo, prima: cousin (from the Spanish term)
 sobrino, sobrina: nephew, niece (from the Spanish term)
 *asagua: spouse
 sogro, sogra: father-in-law, mother-in-law (from the Spanish *suegro, suegra*)
 kuñado, kuñada: brother-in-law, sister-in-law (from the Spanish *cuñado, cuñada*)
 yetno, yetna: son-in-law, daughter-in-law (from the Spanish term)
 parientes: relatives (from the Spanish term)

The following terms, which today are practically obsolete, were recorded by Freycinet (11, p. 374) in 1819:

*ninis: generic term for children or issue, male speaking (*ninis-gna*—legitimate child; *ninis-hegui*—bastard)
 *finagnago: generic term for children or issue, female speaking
 *pinigsai: adopted child
 *maga, magtchaga: ancestor of the family, eldest child, eldest sibling (i.e., first-born)
 *sologna: junior or youngest brother
 *i solognan inatnganan: younger in relation to older
 *atchafnag: kin or blood relatives

Thus only the Chamorro terms for children, siblings, ancestors, and spouses survive. A glance at these reveals that, although no ancient specific terms with sex or age significance are in use today, *lahe* used with the possessive suffix is the generic term for male, *haga* is the generic term for blood, *bihu* or *biha* expresses gender by means of Spanish endings. Separate terms for children when a male or a female was speaking and terms distinguishing the first-born from cadets were known a century ago. On the other hand, no terms distinguishing the line of descent were recorded by Freycinet and none are used today. It is probable, however, in view of the former clan system in the Marianas and the emphasis on seniority as a basic factor in determining rank, that terms bifurcating the line of descent and terms distinguishing relative age were formerly used in this group, as they are in the Carolines. However, terms distinguishing sex may have been scarce, as in the Philippines, since in both groups the distinction between the sexes was based primarily on physiological rather than social factors.

According to Freycinet (11, p. 372), rank within the clan was determined by seniority along the direct first-born uterine lineage from the highest to the lowest as follows: great-grandmother, grandmother, mother, grand-aunt, aunt,

sister, female first cousin, daughter. Married women took precedence over the unmarried.

The members of a clan were subject to certain obligations, especially at a death, marriage, or birth in the group, the building of houses, large canoe sheds and canoes, cultivating and harvesting crops, sailing and communal fishing expeditions. For instance a fisherman had to distribute among his relatives the first catch of each species of fish each season (11, p. 478). These customs survive in modified form in modern Guam (29).

Requests from relatives, accompanied by shell "money" (*alas*), for the use of land or other property or for apprenticeship in a profession, such as carpentry, could not be refused (11, pp. 478-479).

MARRIAGE

No evidence of the preference for cross-cousin marriage, an institution prevalent in the adjacent Carolines, has yet been found in the Marianas. This negative evidence is, however, insignificant. Sanvitores' statement (14, May 1937, p. 18) that the Chamorros did not marry relatives is too broad to be of much value.

Marriage between a member of the upper or middle class and the lowest class was strictly forbidden in the Marianas. Whether or not nobles married members of the middle class is not clear.

Marriages were usually monogamous, but premarital consorting of the sexes was institutionalized in the Marianas as in other parts of Micronesia. Unmarried girls were kept in the club houses where the bachelors lived. Regarding this custom, which was condemned by the missionaries, Sanvitores (14, April 1937, p. 39) wrote, "The young men, who are called Urritaos . . . live in public houses with young girls, whom they buy or rent from their parents for two or three iron hoops and a few turtle shells, and this does not prevent the girls from marrying later." The report by Mendoza (3, vol. 6, p. 139) that unmarried youths had free access to married women is apparently based upon a misunderstanding of native custom.

Marriage among the ancient Chamorros was marked by premarital service on the part of the young man to the bride's family and an affinal exchange of property, in which the gifts prescribed by the groom's relatives so far out-valued those of the bride's as to amount practically to a bride price.

The following ceremonies, described by Freycinet (11, pp. 477-478), probably represent a modification of the ancient marriage ritual. They survive with minor changes in modern Guam.

As soon as a union was projected the mother of the prospective bridegroom or, if the mother was dead, the grandmother or other near female relative, having provided herself with a box of betel, went to the mother of the girl. There, without allowing time for the usual presentation of betel by the

host or hostess, she hastened to offer what she had brought. This manner of entrance showed the mistress of the house that marriage was about to be proposed, and she asked the motive of the visit. "I have come to ask your daughter for so-and-so", responded the mediator. If the grandmother of the girl was living the mother declared she could promise nothing without her advice, and the grandmother had to be approached with the proposition by means of the same ceremonial. Thus an attempt was made to delay matters until the entire family had had time to consider the offer and allotment. On a convenient day the mediator for the young man made another visit to the girl's house. If the girl had meanwhile shown a preference for him, he was accepted and was obliged from that time on to assume the responsibility of his suit. He entered the service of the girl's family, who tested his skill in such things as gardening and fishing.

Three or four days before the wedding the relatives on both sides beat and cleaned rice, which they then ground and mixed with coconut milk into a dish called *laulau*. On the day before the marriage the female relatives prepared breadfruit, roots, and fish, while the men gathered wood and constructed a temporary shelter for the ceremony. On the night before the wedding the two families met to present the ceremonial gifts (*chinchuli*) to the mother of the groom. They brought edible roots, breadfruit, bananas, rice, fish, salt, and betel. In the evening betel was passed and supper served, and there was dancing. At daybreak the relatives of the groom, leaving a few individuals at his mother's home to prepare dinner, went to the girl's house and were given betel. Here the bride was given to her husband. Breakfast was served on a mat placed on the floor, the relatives of the groom served first, in order of rank. After breakfast the wedding guests went to the house of the groom, where dinner was served, the bride's relatives taking precedence.

In ancient Chamorran society, women of the upper classes apparently held a high position, and in modern Guam they have retained a relatively high position, in spite of Spanish influence. "In each family the head is the father or elder relative, but with limited influence", wrote Sanvitores (14, May 1937, p. 18). "... In the home it is the woman who rules, and her husband does not dare give an order contrary to her wishes, nor punish the children for she will turn on him and beat him."

A boy, as he grew up, neither feared nor respected his father (14, May 1937, p. 18), and fathers were apparently inclined to be jealous of their sons, as illustrated in the following tale (which has several variants) current in Guam.

Centuries ago, when Guam was inhabited by people of gigantic stature, there lived on Apuguan beach the largest and strongest man on the island. He was exceedingly proud of his great body and prodigious feats of strength, which are to this day recalled in wonder.

This man had a son whose powerful body promised to excel even that of his father. At first the father was proud of his son but as the boy developed he became very jealous. When the boy was three years old he uprooted a young coconut tree while he was hunting coconut crabs one night. This feat so infuriated the father that he chased his son through the jungle. Arriving at a point at the north end of the island, the frantic lad gathered all his strength for one leap, which carried him to the neighboring island of Rota. He left his footprint pressed deeply into the stone, and since then the headland has been called Puntan Patgon (Childs Point).

The tie between mother and son, however, was probably at least as strong as it is today (29, p. 203).

ADOPTION

The adoption of children was apparently common in the Marianas. According to Freycinet (11, p. 477), adopted children were called *pinigsai*. He stated (11, p. 482) that the adoption of a child took place only after both families and the male head of the district had been consulted, and that the adopted child was subject to the same privileges and obligations as the other children in the family, except those concerning succession to family or district chieftainship.

SOCIAL SANCTIONS

According to Sanvitores (14, May 1937, p. 18), transgressions were punished by war if "they were of the crowd, by public scorn if they were of the individual."

Freycinet (11, p. 481) stated that contests between individuals were usually settled between the two. If there happened to be a violent brawl, however, the spectators would interfere and often even the village chief would be called in to exercise his authority. He added (11, p. 485) that all questions vital to the interests of the district were submitted to a council composed of high ranking men and women of the noble class.

According to Freycinet (11, p. 484), fishing regulations were rigidly enforced. Each *atchuman* fisherman was assigned fishing grounds with boundaries fixed by alignments taken on land, and death was the penalty for fishing out of bounds. During the *mañahag* (the young of a species of *Siganus*) season a request from a relative for assistance with the catch could not be refused. In net fishing, each fisherman received a portion of the catch and the owner of the net was entitled to half of it. In modern Guam the catch is divided into three equal parts: the first is given to the net owner, the second is given to the canoe owner, and the third is divided equally among the fishermen.

WARFARE

A state of rivalry, which frequently broke into hostility, formerly existed among various islands and districts in the Marianas. According to Mendoza (3, vol. 6, pp. 139-140),

Between the islands a state of hostility prevails, whenever occasion offers, as happened while Spaniards were in the port of the said island [Guam]. At the point where the Spaniards anchored as many as two hundred small boats filled with natives came to the ships to sell . . . products of those islands, and to buy in exchange things carried by our men—especially iron, of which they were particularly fond, and glass articles, and other trifles. There was a great contest to see which of the canoes would reach the ship first, and their occupants came to blows, wounding each other as savagely as wild beasts, so that many died in the presence of our men.

As in other parts of Oceania, native warfare in the Marianas was a sort of game in which rival groups would test their strength against one another. There was a great show of bravado, but as soon as one side had lost two or three men, it would send a turtle shell to the enemy as a sign of submission.

We are indebted to Sanvitores (14, April 1937, p. 38) for the following description:

They are barbarous warriors, quick to anger and easily calmed, laggards in fighting, quick to flee. One village rises against another with a big hurrah, but without a leader, without order and without discipline. They are customarily on a campaign several days without actually meeting in battle, each group observing the movements of the other, and when they arrive at the moment of battle, peace is quickly adjusted for one side, having lost two or three warriors, gives up the fight and sends messengers to the enemy bearing the shell of a turtle as a sign of submission. The winners celebrate the victory with satirical songs in which they praise themselves and make fun of the losers.

Their arms are stones and lances with points of human bones in place of metal. These are made of three or four sharp tines, which puncturing the flesh, break off, causing certain death. No remedy for this has been found . . .

They use these weapons from boyhood and are very skillful in handling them; moreover, they can throw stones from a sling with such dexterity and strength that they are able to drive them into the trunk of a tree. They do not use bow and arrow, nor sword. They have only a kind of cutlass and some knives obtained from our ships in exchange for fruits. They have never used buckler or other means of defense, depending only on their quick movements to escape the blows of an adversary.

The principal weapons of the ancient Chamorros, according to historical and archaeological evidence, were spears and slings (*atupat*), both of which they used with deadly precision and force. Spears were either hardened by fire (Mendoza, 3, vol. 6, p. 136) or tipped with bone. Artieda (3, vol. 3, p. 192) stated that they had "clubs hardened in fire, which they used instead of lances." Pigafetta (3, vol. 33, p. 99) stated that spears were tipped with fishbone, but most accounts describe the points as composed of human bones. Moreover, barbed spear points of human bone have been found in archaeological sites (28, p. 52, fig. 23, pl. 11, C). According to Cowley (8, pt. 2, p. 19),

. . . the sharp ends of their lances are made with dead men's bones; for upon the decease of a person, his bones make eight lances, of his leg-bones two, of his thighs as many, and his arms afford four, which being cut like to a scoop, and jagged like to the teeth of a saw or eel spear, if a man happens to be wounded with one of those lances, if he be not cured in seven days, he is a dead man.

Large numbers of slingstones, called *dujuk patu* by Freycinet (11, p. 491), have been found on the surface or buried just below it in Guam, especially

in and around Agana, at Inarajan and at Ritidian Point. Slingstones have also been found in caches of 12 to 40 stones of uniform size, shape, color, material, and workmanship, buried to a depth of 3 feet. This suggests that they were made by specific groups of warriors and stored for ammunition (28, p. 49). The slingstones are composed of basalt, limestone, marble, or baked clay, carefully worked into an egg shape. Apparently there was a local variation in material and form (28, pp. 50, 52; fig. 23, pl. 11, C). Freycinet (10, pl. 79, fig. 6; 11, p. 491) described and illustrated Chamorran slings of coconut fiber or pandanus.

Bows and arrows were unknown in the Marianas until painfully introduced by Magellan's sailors. Pigafetta (3, vol. 33, p. 97) wrote, "When we wounded any of these people with our crossbow-shafts, which passed completely through their loins from one side to the other, they, looking at it, pulled on the shaft, now on this end and now on that side, and then drew it out, with great astonishment, and so died."

According to the account of the Legazpi expedition (3, vol. 2, p. 110), the natives used shields, but no substantiation has been found for this statement.

There is no question that the ancient Chamorros were skillful and ingenious warriors, who depended more on strategy than formal defenses. They used hidden obstacles, thorns, trenches, and ambushes, and they threw burning lances on the thatched houses of their enemies (14, March 1938, pp. 35, 36; July 1938, pp. 12, 40; April 1939, p. 14). However, they did not build moats or extensive fortification walls. Ruins of walls have been reported by Hornbostel at the entrances to caves at Talofofo and Apolog. Some of these caves contained human remains, potsherds, implements, and pictographs. (I saw, at Talofofo, ruins of walls of undressed limestone outside of two caves containing pictographs and potsherds.) The walls were obviously built for defense (28, p. 22). In spite of inferior equipment they held out against trained Spanish soldiers, armed with harquebuses, for almost 30 years, and did not submit to Spanish rule until they had been almost exterminated.

RELIGION

THE INVISIBLE WORLD

Little is known of the religion of the ancient Chamorros. However, from Sanvitores' account, in spite of its missionary bias, it appears that an important factor of the religion was the ancestor cult. According to this account, the *anite*, which Sanvitores translated first as "souls of the ancestors" (14, May 1937, p. 19) and later as "demons" (14, Aug. 1937, p. 36) were considered sacred and powerful. They were invisible guardians to their descendants, who venerated and feared them. Freycinet (11, p. 382) and Safford (25, 1905, p. 44) spelled the term *aniti*. The former translated it as "evil

spirit" and the latter as "spirit." Freycinet interpreted the term *anti* to mean "souls of the dead", whereas Sanvitores used it to mean "soul."

According to Sanvitores, a class of professional sorcerers, called *makana* (*macana* or *macajna* in the Higgin's translation of Garcia, 14), invoked the *anite* on behalf of the living to bring success in warfare, to obtain rain, to cure illness, and to insure a good catch. Of the *makana*, Sanvitores stated (14, May 1937, p. 19) :

There are . . . *Macanas* who promise health, good fishing and similar benefits by means of invoking the dead whose skulls they keep in their houses with no altar, niche, or adornment except a casket in which they are left about the house, forgotten until the time comes when they want to ask some favor of the *anite* . . .

Elsewhere he wrote (14, Dec. 1937, p. 13) :

During the month of June of this year [1670] there was a great drought and all crops were at the point of destruction. The suffering Marianos . . . had recourse to the *Macajnas* [sorcerers] and asked them to invoke the *Anites* by means of the skulls that brought rain, for thus are called those which are thought to produce rain. They keep them in their houses and through them, pray for rain. They call this *Maranan uchan*, which means "a miraculous thing for rain", a name which they also apply to the skulls.

According to the report of the Loyasa voyage (4, vol. 1, p. 139), "They . . . worshipped the bones of their ancestors, which they carefully kept in their houses, and anointed with coconut oil."

Whether ancestral souls were considered to be mediators between gods and men, as they were considered among the polytheistic peoples of northern Luzon (2, p. 92), or to be inherently powerful, as they were in Polynesia, is not known.

When the Jesuits threatened their power, the sorcerers incited the people against them. They ". . . threatened the people with drought and the sterility of their fields, poor catches of fish, sickness and all manner of misfortune if they did not throw the strangers out of their country" (14, Feb. 1938, p. 17).

The sorcerers were apparently shamans rather than priests and there is no record of their being possessed, although "spirit possession" occurred among Chamorros and was treated by the sorcerers. Sanvitores (14, June 1937, p. 14) recorded the following incident :

A little girl was born on the Island of Aguigan. It appeared to her father that the *anite* or a demon threatened her and was about to kill his child. The father begged it not to do so even though it kill him instead. He told this to his wife, who, a few days later, found him dead in his bed.

The sorcerers probably practiced black magic as well, by using their enemy's "dirt", such as spittle (14, April 1937, p. 36).

A class of sorcerer, known later as *kakahna*, survived into recent times. Hornbostel (16) wrote, "the *Kakahna* were of the people and their children inherited their powers of causing and curing sickness. The one or two

Kakahnas who are still alive are feared and carefully avoided." Besides the *kakahna*, there is a class of native doctors in Guam called *suruhana*. With the development of modern medicine on the island, this class, consisting mainly of aged women, is dying out. Although *suruhana* are not mentioned in the early reports, it is probable that they existed in olden times. They treated illness with herbs, whereas the *kakahna* apparently used supernatural means.

The ancient Chamorros also propitiated the *anite* without the intervention of the sorcerers. For instance, Sanvitores (14, Sept. 1937, p. 15) wrote that once when a noble who had been converted to Christianity was fishing with his son "the father saw a fish which the natives like very much, called *guatafe*, and without stopping to consider, was carried away by the old custom and began to invoke his *anite*, to gain their help in catching fish."

The skull cult of the ancient Chamorros probably accounts for the large number of isolated skulls and skull-less burials found in *latte* (16) and also for the tales of headless *taotaomona* (supernatural beings) current among modern Chamorros.

In modern Guam the abode of the ancestors is believed by aged natives to be the banyan tree. Safford (24, April 1935, p. 3) wrote, "Don Jose told me that on a spot where we were standing there used to grow a great *nunu* (banyan tree). It was thought to be a resort for *manganiti* [plural of *anite*] . . . , and people were afraid to pass by, especially after nightfall." This belief appears to be a survival from ancient times. It is significant in view of the ceremonial importance of the banyan in Polynesia and other parts of Oceania. The beings which inhabit the banyan tree are often called *bihiu* (ancestors) today, and the bark of the banyan is used by some herb doctors to cure illness, especially that believed to be caused by supernatural agents. Others apply human urine from a male relative, preferably the first-born of the generation, to the face and body of the victim of such illness.

Present-day inhabitants of Guam recognize several classes of supernatural beings, in addition to *anite*, which have not been found mentioned in the early reports. These are the *taotaomona*, the *maligña*, and the *duhende*. The confused tales concerning these beings are regarded with skepticism by the younger generation in Guam, but only the most modernized natives avow complete disbelief in them.

The *taotaomona*, evidently a post-Spanish concept, are believed not to be gods or ghosts but to be men of superhuman strength, the ancestors of the modern Chamorros. According to Gertrude Hornbostel (28, p. 59), "the *taotaomona* were formerly *magas* (chiefs) of the various localities." Conservative natives believed until recently, and even to a limited extent now believe, that each guarded his district jealously. This was noticed by Hornbostel when he was gathering place names on the small, relatively conservative

island of Rota 20 years ago. Here Hornbostel discovered that not a single native had visited the entire island, which is only about 48 square miles in area. He had to hire five guides to cover it. He stated (16) :

I found that the spirits of ancestors of a certain family inherit a certain section, and it is permissible for a person who is a member of this family to visit freely his own section, but if he ventures too far afield the ancestral spirits of other families will harm him unless he is very careful in his behavior. If a person finds himself outside of his own district he must not annoy the ancestral spirits of persons belonging to the district by singing, urinating or otherwise defiling the ground; picking fruit, cutting wood, catching fish, digging out yams, etc.; camping out for the night; or hunting fruit bats. When a person decides to invade a strange district he first asks permission to enter and then again for each and every breach of the regulations. Even then it is dangerous to invade the territory of other people's ancestral spirits.

Some of these customs, especially regarding singing and defiling the ground, are still observed in the rural districts of Guam. Infringement, according to the old people, may cause illness or death.

Taotaomona are especially dangerous to pregnant women and to young children because they do not like the odor of breast milk. Hence pregnant women and children must be protected from injury with magic prophylactics, such as strong smelling objects (onions, burnt dung, burnt rags, or burnt leaves of the banyan), Catholic charms, or salt. According to the natives, a child is made to "eat salt" at the baptism ceremony.

The ancient Chamorros had no organized priesthood and no temples, according to the early missionaries (14, May 1937, p. 19). At the time of the first permanent mission, however, they had wooden figures, one with "three heads on its shoulders" (14, July 1937, p. 10), which they kept in their houses. Also they carved and painted images on trees (14, July 1937, p. 10; May 1937, p. 19). Sanvitores believed that the worship of idols had been introduced by Choco, a shipwrecked Chinaman cast ashore on Saipan in 1648. Choco incited the natives of the Marianas against the missionaries (14, July 1937, pp. 10, 11). However, Pretty (6, p. 328) observed that the natives had images of human figures carved in wood and standing at the heads of their canoes, and Mendoza (3, vol. 6, p. 141) reported that although little was known of their religion, it was understood that they worshipped idols. From the available evidence it appears likely that carved wooden figures were used ritually as well as decoratively by the ancient Chamorros. (See also the report of the Loyasa voyage, 4, vol. 1, p. 139.)

FOLKLORE

Poets were held in high esteem among the ancient Chamorros. Sanvitores (14, April 1937, p. 36) stated, "... they admire poetry and believe poets to be men who perform wonders." Probably the only form of ancient poetry sur-

viving today is the *chamorita* or folksong, composed to variants of a single tune. Most *chamorita* consist of two couplets, the second and fourth lines of which rhyme. The last couplet is frequently unrelated to the first in meaning. The refrain is commonly used to taunt a rival in sport or to tease the object of unrequited love (28, pp. 65-66, fig. 65).

The natives sang their ancient myths, the best singers gambling on who could sing the most verses (14, May 1937, p. 19).

Sanvitores (14, April 1937, p. 38) wrote, "The men meet to dance, throw lances, run, jump and exercise their strength in many ways. During these entertainments they recount with much laughter their traditions and stories, and give out as refreshments rolls of boiled rice, fish and fruits, and a drink made of *atole*, rice and grated coconut." He also said (14, April 1937, p. 39) that 12 or 13 women in ceremonial dress joined in a circle and, without moving, sang their history and legends in verse and in measured time in three part singing, with the occasional tenor assistance of one of the chiefs, who attended these fiestas. The songs were accompanied by movements of the hands, in the right hand a crescent and in the left hand a small box of shells and bells that served as castanets. This was in such perfect time and so well done that it caused no little admiration.

Apparently all the ancient Chamorran dances have been lost. The so-called "stick dance" of Guam was introduced by the Caroline Islanders and the "schottish" by the Spaniards. Among the musical instruments now found in Guam, the bamboo flute, the bamboo free reed [*balembaupachot*, *balambau-batchot* (13, p. 85)] and the musical bow [*balembautuhan*, *balambau-tujan* (13, p. 85)] may be survivals from pre-Spanish times.

Most of the ancient Chamorran folklore has been lost. A few fragments of myths concerning creation, the abode of the dead, and migration, have been recorded. Survivals probably occur also in old myths and tales still current in Guam. The most popular of these, however, are post-Spanish legends about the Catholic saints and the *taotaomona*. Explanatory myths and tales about the *duhende* and the *maligña* also occur.

We are indebted to Sanvitores (14, May 1937, p. 19) for the following creation myth:

Regarding the creation of the world, they say that Puntan . . . was a very ingenious man who lived many years in an imaginary place which existed before earth and sky were made. This good man, being about to die, taking pity on mankind who would be left without a place in which to live, and without sustenance, called his sister who, like himself, had been born without father or mother. Making known to her the benefit he wished to confer upon humanity, he gave her all his powers so that when he died she could create from his breast and back the earth and sky; from his eyes the sun and moon, a rainbow from his eyebrows, and thus adjust everything else. This they sing in their poor verses, and they know it by heart, but with all this, there is no one who renders either Puntan or his sister any worship or visible ceremony, invocation or recourse that would indicate that they are recognized as divinities.

This custom of reciting creation myths on appropriate occasions is also found in the northern Philippines (2, pp. 85-86).

Elsewhere Sanvitores (14, July 1938, p. 13) stated, "Fuuna [a point on the coast of southwest Guam] is celebrated among these natives for there is in it a rock, or stone, from which they believe all men had their origin . . ."⁷ This is apparently an explanatory element in the same creation myth.

Before the arrival of Magellan the Chamorros thought that they were the only people in the world and that there was no other land than their own (Pigafetta, 3, vol. 33, p. 103; Sanvitores, 14, May 1937, p. 19), a belief common among non-literate groups. However, they apparently knew of the existence of the Carolines. Sanvitores wrote (14, May 1937, p. 19) that after Magellan, however, they incorporated into their traditions "the belief that all other lands and other men had sprung from a single bit of land, which was the island of Guam, and that it was at first a man, then it became stone and from it issued all mankind, and from Guam men were scattered over the earth, to Spain and other countries." Sanvitores continued, "They add that as the people went away from the country of their origin, they forgot their mother tongue, and that people of other nations now know no language at all, but jabber like lunatics not even understanding each other. They believe everyone to be ignorant who does not know their language."

The Chamorros also had a tradition of a migration from the south or west (14, April 1937, p. 20), like many of the peoples of Oceania.

Regarding the abode of the dead, they believed, according to Sanvitores (14, May 1937, p. 19), that the souls of those who died a natural death descended to an underworld paradise where there were "bananas, coconuts, sugar cane and other fruits of the earth." On the other hand, the souls of those who died a violent death went to a sort of hell called Sasalaguan, the dwelling place of Chayfi, a demon, who cooked them in a cauldron which he stirred continually.

DISPOSAL OF THE DEAD

Concerning funeral ceremonies Sanvitores (14, May 1937, pp. 19-20) wrote:

Some, when a man is about to die, place a basket at his head as if inviting him to remain with them in the basket instead of the body he has inhabited whenever he returns from the other world to pay them a visit. Others, after anointing a corpse with fragrant oil, carry it about to the homes of relatives, in order that the soul may remain in whichever house it chooses, or that it may, when it returns to visit them, find refuge in the house of its choice.

Their demonstrations of grief at funerals are very singular, many tears, fasting and a great clattering of shells. Weeping customarily continues for six or eight days, accord-

⁷ Fuuna was selected by the Spaniards for a settlement because "it is near several ports, and from one point that falls to the North-Northwest, raised 36 to 48 feet above the sea, one can see at a great distance those ships that pass between New Spain and the Philippines. The sea hatches this point on three sides and for this reason it is inaccessible to the enemy . . ." (14, July 1938, p. 13).

ing to their affections or obligations toward the departed. They spend their time singing lugubrious songs, giving parties around the catafalque on which they have placed the defunct, adorned with flowers, palms, shells and other things they consider suitable.

The mother of the dead man cuts off a lock of his hair and keeps it as a memento, and counts the days after his death by tying a knot each night in a cord which she wears around her neck.

Their demonstrations are much greater when one of the Principals dies, or a Chamorro of the upper class, or a highly esteemed matron. Then, in addition to the usual observation, they decorate the streets with palms, erect arches and other funeral structures; they destroy coconut trees, burn houses, break up their boats and hang the torn sails in front of their houses as a sign of grief. They add to their songs more verses setting forth their grief, amid profuse weeping, with such expression as "From now on life will be more difficult, lacking that one who was the life of all, lacking the sun, the moon, that illuminated the night of ignorance, the star of all good fortune, the bravery of all battles, the honor of his line, his village and his country." And in this manner, until far into the night, the praise continues in honor of the dead man, whose sepulchre is decorated with oars, as the sign of a great fisherman, or with lances to signify that he was a brave warrior or with both if he was both warrior and fisherman.

There were apparently several methods of disposing of the dead. This is to be expected in a highly organized, ranked society such as the ancient Chamorran. Three methods of burial have been found in the archaeological sites: namely, burial in *latte* or house sites, in caves, and in earthenware urns.

In *latte* sites extended burials, occasionally headless, have been found between the parallel rows of uprights and between the *latte* and the shore. (See plate 3, C.) They are accompanied by miscellaneous bones as well as spearheads, potsherds, fishhooks, adzes, and other implements, many of which have been fractured before burial. Out of 17 burials between the alignments of the Epau *latte* site (28, pp. 8-11), a type site on Guam excavated by Hornbostel, the skulls were missing from four burials and other bones from two other burials. The skeletons and artifacts were buried to a depth of 12 to 39 inches below the surface of the ground. They were extended parallel to the surface, with feet toward the sea (northwest) and heads toward the southeast, but facing the southwest. This orientation is interesting when viewed in the light of the Chamorran tradition of migration from the south or west. These burials are evidently those of nobles who were interred with their property.

Miscellaneous bones are also found buried in fire holes within or near house sites. For instance, seven fire holes were found between the alignments in the Epau site. They were filled with firemarked, miscellaneous human bones, including skulls, and fishbones, potsherds, and shell scrapers. Five skeletons were marked with fire and some of those were found lying in fire holes. Miscellaneous bones, especially jaw bones, were found at the head, chest, or knees of most skeletons. It appears that at the funeral feast of a deceased noble, human flesh was sacrificed and possibly consumed after having been steamed in an earth oven under the house. The bones were either buried with the deceased or in the earth oven.

Apparently the custom of exposing bodies after death was known in the Marianas, since Cowley (8, pt. 2, p. 19) said, "They never bury their dead, but let them lie in the sun to putrify and rot." This custom may account for at least some of the scattered burials in house sites. It was probably used in connection with burial in large earthenware urns found in the Marianas. I described (28, p. 31, pl. 5, *A*) a partially reconstructed Guam burial urn in Bishop Museum as follows:

It was found . . . about 3 feet below the surface of the ground, in an inverted position and covering human remains and artifacts. The urn was completely disassociated from other archaeological sites. . . . The implements found in the urn are reported to have been similar to those which have been found in monument (*latte*) sites. The urn is large, thick, reddish brown in color, with convex base, smooth surface, and incurving, slightly thickened rim.

Scattered human remains, together with the bones of animals, potsherds, stone implements, and fire holes, are also found in caves in the Marianas (Thompson, 28, pp. 20, 22).

ECONOMY

PROPERTY AND INHERITANCE

Wealth in the form of land, houses and canoe sheds, and movable property, such as shell "money" and sailing canoes, was extremely important in the native culture of the Chamorros. It formed the basis of social prestige and was to a great extent in the hands of the upper or noble class.

Chance remarks regarding ownership and inheritance of wealth among the ancient Chamorros are confusing, however, and from them we cannot be certain to what extent the concept of private property functioned. We know that the chiefs controlled much, if not all, of the land and fishing grounds, as well as the manufacture of certain types of shell "money" and of sailing canoes. According to Sanvitores (14, April 1937, p. 36), "in order to provide well for the nobility they have large estates of coconuts, bananas, as well as other choice properties which are inherited. The son of the defunct does not inherit his father's estate, but rather a brother or nephew is the heir. Whoever comes into possession changes his name and takes that of the founder or chief ancestor of the family." However, whether or not this land was actually owned privately or merely controlled by ranking individuals is questionable. Freycinet (11, pp. 478-479) stated that if a woman needed a piece of land, a part of the harvest, a canoe, or any other thing belonging to a man of her family, she presented a piece of shell "money" to him with a request for the property, and her request was immediately granted without further payment.

From Freycinet's account it appears that the property controlled by an individual was regarded to a certain extent as clan property to be used in case of necessity for the benefit of the members of the group. This is also

the opinion of Yanaihara (34, p. 121), who stated without documentation, “. . . gens ownership of land existed among them [the Chamorros of the Marianas] up to the time of the Spanish occupation of the islands.” Land and its products function to a limited extent as the communal property of the family in modern Guam (Thompson, 29, chapter 7).

ORGANIZATION OF LABOR

The economy of the ancient Chamorros was based on cultivation of small clearings in the bush, on collecting in the jungle, and on fishing. Sanvitores (14, April 1937, p. 36) wrote, “They live during four months of the year on products of the ground, coconuts, which are abundant, bananas, sugar cane, and fish. The remainder of the year they supplement the lack of fruits with certain roots.”

According to the ancient Chamorran calendar, the year (*sakkan*) was divided into 13 moons (*pulan*). Information concerning the calendar is taken from Freycinet (11, p. 380). He stated that when he visited Guam in 1819 it had already fallen into disuse. The moons, named principally according to seasons or economic pursuits, are as follows:

1. January: Tumeguini (in this manner)
2. February: Maino
3. March: Umotaraf (to go to catch *guatafi*, a kind of fish)
4. April: Lumuhu (return)
5. May: Magmamao
6. June: Mananaf or Fananaf (to crawl)
7. July: Semo
8. August: Tenhos or Fenos (angry, this is a season of unsettled weather)
9. September: Lumamlam (lightning)
10. October: Fagualu or Maignaof or Pagan (planting time, for rice)
11. November: Sumongsugn (time for mending nets). Safford (25, 1905, p. 104) interpreted *sumongsugn* to mean “to put in the stopper, an expression probably meaning that the hard rains had ceased.”
12. December: Umadjangan (restless weeping, light rains)
13. Umagahaf (to catch crayfish)

Regarding the division of labor between ancient Chamorro men and women, Pigafetta (3, vol. 33, p. 99) stated, “The women do not work in the fields but stay in the house, weaving mats, baskets (*casse*, literally boxes), and other things needed in their houses, from palm leaves.” They busied themselves with child and household care, food gathering in the jungle and on the reef, fishing with hand nets and on communal expeditions, the making of coconut oil, the manufacture of pots, and cooking. Most of the native medicine was also in the hands of the women. The men did most of the gardening, as they do today, part of the fishing, the house and canoe building, wood and stone work, and navigating. They probably also cooked in the earth oven, as they do in many parts of the Pacific, and made the nets, which are man’s work in

Guam today. Ceremonials, games, and warfare consumed much of their time and energy.

Labor was divided also by class, according to Freycinet. The upper class monopolized some professions, such as canoe building and the manufacture of certain types of shell "money." The two upper classes engaged in warfare, sea fishing, and, apparently, sailing and exchange. These activities were forbidden to members of the lowest class, which probably constituted the farm laboring group.

GARDENING AND COLLECTING

One of the main crops was rice (*fai*), which was traded to visiting navigators in exchange for iron (3, vol. 2, p. 86; vol. 34, p. 318; 4, vol. 1, pp. 138, 257). Medina (3, vol. 23, p. 137), who visited Guam in 1565, said that rice was "the chief food of all the islands." According to the report of the Nassau fleet in 1625 (4, vol. 3, p. 33), "rice was cultivated in many places, and the natives sold it by weight, in bales of between 70 and 80 pounds each . . ." On the other hand, a century later Sanvitores (14, April 1937, p. 36) stated that only a small amount of rice was cultivated and that this was saved for feasts. Rice is regarded as a luxury in modern Guam and is one of the indispensable foods at any feast.

There are, in the river valleys of the southern half of Guam, extensive deposits of alluvial soil which make excellent rice lands. No evidence has been found of the presence of an irrigation system employed by the natives in prehistoric times. Rice was planted, as it is today, in October (Fagualu), the planting moon.

Coconuts (*nijog*), which grew in large quantities; yams (*nika* and *dago*) and other roots; bananas (*chotda*); breadfruit (*lemai*, cultivated for fruit; *dogdog*, for edible seeds); sugar cane (*tupu*); and ginger (*asno*) were frequently mentioned in early accounts of native food. According to Safford (26, pp. 206-207), taro (*sunì*) was a staple, cultivated for both the tuber and the edible leaves, but not made into poi.

Early navigators (3, vol. 6, pp. 139, 140; vol. 10, p. 262; vol. 33, p. 99; 4, vol. 3, p. 34) mentioned "batatas" among the products received from the natives of Guam, but Safford (26, pp. 297-298) was certain that they referred to yams, as sweet potatoes (*kamote*) and maize, the staple of the modern natives, were introduced to the Marianas by the Jesuits. He pointed out (26, p. 24) that maize was cultivated in Guam as early as 1676, when it had become the principal sustenance of missionaries and soldiers, according to Sanvitores.

Early accounts of the gardening techniques and tools used by the natives are lacking. However, Freycinet (11, p. 401), who received much information during his visit to Guam from Don Luis de Torres (a Spanish-Chamorro student of native culture), described three implements employed in gardening

by the natives. These were the *dagau* (10, pl. 79, fig. 4) and the *tanum*, two types of pointed wooden digging sticks, and the *akoa* (10, pl. 62 left), a sort of long-handled stone-bladed spade. Blades, apparently similar to the *akoa* type illustrated by Freycinet, have been found in archaeological sites (Thompson, 28, pl. 6, K). Formerly the natives used few and simple tools. Among them the *dagau* took first place. This was a stick 2.5 inches in diameter by 4.5 feet long, usually of the hard wood of the mangrove or the *gago* (*Casuarina*), and shaped like a whistle, in two halves, at one of its extremities. It served as a mattock, pick, and planting stick, as a pole for carrying burdens, and even, fortuitously, as a defensive weapon. The *tanum*, another cylindrical instrument of the same dimensions was used for planting the *suni* (taro) and for breaking the coconuts used for making oil. The *akoa* had a certain resemblance to our spade. Its handle, 5 feet long, was furnished, in lieu of an iron blade, with a stone 3 inches wide and 1.5 inches thick, flat, hard, and sharp, and fastened to the wood by a strong binding cord of finely plaited coconut fiber (coir).

Wild yams (*gado*), Polynesian arrowroot (*gapgap*, *Tacca pinnatifida*), the federico nut (*fadang*, *Cycas circinalis*), and other edible wild foods were collected from the jungle; but the Polynesian chestnut (*Inocarpus edulis*), a staple on many Pacific islands, was absent (Safford, 26, p. 98).

There were no indigenous quadrupeds in the Marianas, according to Safford (26, p. 76), who states that the only mammals in prehistoric times were two species of bats: the large fruit-eating "flying fox" (*Pteropus* sp.), called *fanihi*, and a small insectivorous species, called *pajesjes*. Flying foxes are relished by the modern natives of Guam and served at feasts. They are caught in the jungle at night, by means of large hand nets.

A species of jungle fowl occurs in the northern Marianas (Safford, 26, p. 78), and it is probable that prehistoric natives also had the domestic fowl for food. Several of the early navigators mentioned fowl among supplies obtained in the islands. The Pigafetta manuscript (3, vol. 33, p. 99) reads, "They eat cocoanut, camotes, birds . . .", whereas manuscript 5650 reads, "They eat coconuts, camotes. There are found birds . . ." [See also the report of the Nassau fleet (4, vol. 3, p. 34); Mendoza (3, vol. 6, p. 139); and Funnel (5, p. 179), who mentioned eggs among the supplies obtained in Guam.] On the other hand, according to the account of the Loyasa voyage (4, vol. 1, p. 139), no birds were seen except little doves, which were kept by the natives in cages and taught to speak. [See also the accounts of the Legazpi expedition (3, vol. 2, pp. 112-113) and of Sanvitores (14, April 1937, p. 19).]

The coconut crab, *Birgus latro* (*ajuju*), was probably trapped in prehistoric times, as it is today. Captured crabs are fattened on coconut meat and eaten by the modern natives.

FISHING

Sea food was the most important protein in the diet of ancient Chamorros. They were expert fishermen, whose methods, some of which still survive, were varied and ingenious. Both men and women were powerful swimmers and divers, as much at home in the sea as on land. They were also good sailors and handled their well-built, swift canoes with great skill.

Medina (3, vol. 23, p. 138) stated that both men and women were "accustomed to jump from their little boats after fish, and to catch and eat them raw."

The report of the Legazpi expedition stressed the ability of the natives to catch fish by hand (p. 8). The natives of Guam still catch rock cod (*gadao*) and trigger fish (*pulonon*) by the hand method, called *lalago* (tickling), one of the few fishing methods used by women today. Formerly women in Guam took a greater part in fishing than they do now.

Several types of fishing implements were employed by the ancient Chamorros. The most common fishhooks (*haguit*) found in archaeological sites are small hooks of pearl shell. Fish gorges of the same material are also common. I have illustrated and described these implements elsewhere (28, p. 46, pl. 11, *D, E, F* and fig. 21, *a, b*). Large, two-piece hooks of the type common in the Carolines (10, pl. 58, figs. 9, 10, 11, 12) were formerly used in the Marianas, according to Freycinet (11, p. 435). A fishhook shank, composed of calcareous material, was found on the surface of the ground in Guam (28, p. 46). It has two knobs for attaching the line at one extremity and two grooves for securing the hook point at the other. This hook is the only one of its kind which has been reported from the Marianas.

Safford (26, p. 81) stated that the ancient custom of trawling for bonitos and flying fish had nearly died out when he visited Guam (1899-1900).

Hooks of fishbone were used to catch flying fish, according to Pigafetta, who wrote "The pastime of the men and women—and their sport, is to go in their boats to catch those flying fish with fishhooks made of fishbone" (3, vol. 33, p. 99). The hook used for flying fish was called *anutchon*, according to Freycinet who described it (11, p. 435, footnote 1) as: "A kind of *bauffe* or *palangre* (*kinatchit gumahga*), which consisted of a master cord upheld by little gourds (*taguadji*) and furnished with lateral lines one or one and one-half fathoms (1.62 m.) apart, was a piece of apparatus always used, as its name indicates, in fishing for flying fish." He also described the method used for catching flying fish (11, p. 443).

Urdaneta (3, vol. 2, p. 86) reported that fish were caught with hooks of tortoise shell. This information cannot be checked by means of archaeological deposits, for no artifacts of this material have been preserved in the prehistoric sites. Several types of sinkers, however, have been found in Marianan sites.

They are composed of worked basalt, gypsum, limestone, and marble (28, pp. 47-48, pl. 9, *C* and fig. 21, *c*, *d*).

Grooved sinkers of the type called *talae*, composed of basalt, limestone, or marble, and ranging in shape from conical to subspherical, were used until recently by the natives of Rota to catch a large parrot fish, according to Hornbostel. Both Hornbostel (16) and Freycinet (11, pp. 441-442) have described the native method of catching parrot fish by means of a decoy.

A hemispherical stone sinker, called *poio*, was used in catching *atchuman*, a sort of mackerel. The method, which involved luring the fish to the surface of the water by discharging grated coconut from the coconut-shell cap attached to the sinker and catching the fish with a hand net, called *lagua atchuman*, has been described and illustrated by Freycinet (10, pl. 79, fig. 17; 11, pp. 436, 440). It was still in use in 1925 on the island of Rota, according to Hornbostel (16).

Fishlines were formerly composed of coconut and pineapple (*piña*) fiber, according to Freycinet (11, p. 435). Until recently fishnets were made of hibiscus (*pago*) and pineapple fiber in Guam, according to modern natives. In southern Guam, I saw several such nets, which have become valuable property.

The modern natives say that in olden times fish were caught in drag nets of hibiscus fiber by a difficult method called *manyague*, still used occasionally in Guam. The fishermen dragged the nets in the form of a semicircle toward the shore.

Fine-meshed seines are still used to catch *mañahag* (*Siganus* sp.), a tiny silvery fish, large schools of which appear in Marianan waters during the month of April and, occasionally, October. A communal *mañahag* fishing expedition, in which men, women, and children participated, as they do today, was witnessed by Freycinet (10, pl. 63; 11, pp. 151, 439).

The *chenchulo* method of enclosing the fish by describing a wide circle with drag nets, commonly used in modern Guam, was probably also used in ancient times. Cowley (8, pt. 2, p. 18) wrote that when the natives invited some English visitors to go seine fishing with them, they hauled the seine around the boat "thinking thereby to draw both men and boat ashore."

The casting net (*talaja*), common in Guam, was probably introduced recently into the Marianas from Japan, as it is thought to have been introduced into Polynesia.

Since the natives of the Marianas were expert spearsmen, they almost certainly used spears for fishing, a custom in many parts of the Pacific. Freycinet (10, pls. 63, 79, fig. 11; 11, p. 436) described and illustrated a barbed wooden spear employed in fishing, and stated (11, p. 443) that crabs were also hunted with barbed spears. According to tales current in Guam, the

taotaomona (supernatural beings) fish with spears and torches. Torches (*sulo*) made of coconut spathes are still used in Guam.

Fish were stupefied, as they still are, with the fruit of the *puting* (*Barringtonia speciosa*) (Safford, 26, pp. 81-82). Squids were caught with a ratlike squid lure, found in Marianan archaeological sites (28, p. 48, pl. 9, *B*) and common in the Pacific.

Freycinet (11, p. 438) reported that, according to tradition, fishponds (*ghigau*) were formerly constructed of stone along the shore. In 1819 they had been displaced by weirs of reeds used as fish pens. Such weirs, faced with chicken wire, are used in modern Guam.

According to Sanvitores (p. 11), eels were never caught, but Freycinet (11, p. 443) stated that they were caught with wooden spears, only by the lowest class.

Two fishing seasons were important enough to give names to moons in the native calendar: *Umatalaf*, the March moon, which means to "go and catch a kind of fish called *guatafi*" and *Umagahaf*, the moon between December and January, signifying to "go crayfishing."

Little is known of the rites formerly observed by fishermen, but Sanvitores (14, May 1937, p. 19) stated that, to insure a good catch, fishermen invoked the *anite* and observed tabus of abstinence and silence in order to placate them. Moreover, modern natives occasionally use a stone, found in the entrails of a certain fish, as an amulet to bring luck in fishing.

PREPARATION OF FOOD

The prehistoric Chamorros were reputed to have been ignorant of the use of fire (14, April 1937, p. 36), but evidences of fire are found in many archaeological sites. The main cooking methods employed by the natives were steaming in the earth oven (*chahan*), boiling in earthenware pots, and roasting on embers (a method called *peha*).

Rice was apparently husked, as it is today, with a wooden pestle (*falo*) in a mortar, hollowed out of rough basalt or limestone and called *lusong* by the natives. In The archaeology of the Marianas Islands I figured a mortar (28, pl. 7, *B*) composed of limestone and found at the Epau *latte* site. Most of the mortars which I saw in Guam had either one or two cavities. At least one mortar was found between or near the rows of stone uprights at every *latte* site which I examined on Guam. Ancient mortars are also frequently found outside cave sites and in the jungle, whence they are carried by the modern natives to the villages where they are in constant use.

The federico nut was soaked in water, as it is today, to extract the poison. It was then dried in the sun and ground in a type of mortar which is found frequently on the northern plateau, where the federico palm grows extensively.

The milk of young coconuts was drunk in ancient times and coconut cream, made by straining grated ripe coconut, was an important ingredient in many dishes, as it is today. Rice and grated coconut were made into a beverage called *atole* which was served at feasts.

Kava (a drink made from the root of *Piper methysticum*), *tuba* (the fermented sap of the coconut bud) and other intoxicating beverages, and tobacco, were absent in prehistoric times. *Tuba* drinking was introduced into Guam from the Philippines. Gaspar's statement (4, vol. 1, p. 256) that the natives drank salt water is probably an error. According to Urdaneta (3, vol. 2, p. 86), however, salt was used by the natives. On the other hand the *taotao-mona* (supernatural beings) do not use salt, according to tales current in Guam, and salt is used as a prophylactic against evil spirits. Modern natives evaporate sea water near the shore by means of a slow fire under a pot, usually protected by a thatched lean-to.

CANOES

At the time of discovery, woodcraft, based on a variety of valuable hard and soft woods found in the Marianas, was developed to a high degree. The large number of stone and shell tools which has been found in archaeological sites, points to the importance of this industry. Moreover the complicated techniques used by the ancient Chamorros, especially in canoe and house building, indicate that there were specialists in carpentry in the Marianas, as there were in many other parts of the Pacific. This would be expected in a highly organized, ranked society such as that of the prehistoric natives of these islands.

According to Freycinet (11, p. 365), the building of large sailing canoes was a highly prized prerogative of the nobles (*matua*), who prided themselves on their skill at carpentry. They were assisted by middle class workers, but such work was forbidden to members of the lowest class.

The famous "flying *prao*" sailing canoe (frequently called *proa* in the literature) was the marvel of early navigators. From it the Marianas received the name "Ilas de las Velas." The *prao* disappeared from the group in the last half of the eighteenth century. The latest accounts based on personal observation were recorded by Anson, who visited Tinian in 1742, and by Crozet (1772). Hornell (15, pp. 417-418) pointed out that Crozet's account was based on Dampier's. In the historical sources more information on the flying *prao* is found than on any other aspect of the early culture. (Pigafetta, 3, vol. 33, p. 53; Cavendish, 6, p. 328; Funnel, 8, pt. 1, pp. 155-156; Anson, 1, p. 339.)

These canoes were exceedingly swift, well constructed, and decorative. Pigafetta (3, vol. 33, p. 99) stated that some were black, some white, and others red. They were apparently embellished with white shells (22, p. 226),

probably the cowries used in other parts of the Pacific. The privilege of steering was held exclusively by the chiefly class, according to Paris (20, p. 101).

The main features as described by Hornell (15, pp. 418-419) were as follows:

The long, narrow hull ranged from 26 to 40 feet in length with a beam of 1.5 to 2 feet and a depth of 3 to 5 feet, and was formed of a dugout body in one or two lengths or built of planks on a shallow dugout base. The side opposite the outrigger was nearly straight from the end and about vertical.

The outrigger consisted of two or three booms with two at least attached to a canoe-shaped float by oblique stanchion connectives. A wooden strut extended obliquely from each end of the canoe to the outer end of the middle boom with two fore-and-aft stretchers laid on the booms.

A pole mast was stepped within the hull on the windward side with the heel resting on the middle boom and supported by a short prop with its lower end resting on the outer end of the middle boom and its upper end lashed to the mast. Further support was given by a shroud on the outrigger side and fore-and-aft stays. The sail of lateen form, provided with boom as well as yard, was made of fine matting. When hoisted in a socket, the heel of the yard fitted into a sail slip fixed upon a thwart near the head of the hull. As the canoe sailed either end forward, a sail slip was provided at each end.

The Marianas outrigger canoe resembles the Palau type in having no lee counterpoise platform, which is a characteristic feature of the Caroline type.

Little is known of other types of canoes used by the ancient Chamorros. However, an account of an inshore canoe was recorded by Gemelli Careri in 1696. It was quoted by Freycinet (11, pp. 458-459) and translated by Hornell (15, pp. 419-420) as follows:

The little boats of these islands are . . . made of two tree trunks, curved and hollowed, which are joined and sewn together with rattan. Their length is from 15 to 18 feet; their beam is four palms . . .; in order that they may turn very easily, they join to the sides pieces of solid wood which keep them in equilibrium. As to the passengers, the boat being able only to carry the three Indian sailors (who constitute the crew), they place a plank amidships which is prolonged on each side over the water, on which are placed those who wish to be carried from one place to another. Of the three sailors one of them is always at the center occupied in bailing out the water which is shipped or which enters through the joints; the two others are at the two ends to guide the boat. The sail is like that we call lateen, made of matting and as long as the hull.

Hornell added, "This account, although vaguely worded, would seem to point to the design of the boats seen by Careri as of a Caroline Islands type rather than like that described by Anson."

The Chamorros have lost the art of sailing beyond the reef, but at least three types of canoes (called *galaide*) are used by the modern natives of Guam for lagoon fishing. The simplest is a rough dugout, hewn from the trunk of a breadfruit tree, with outrigger attached either directly by means of two sharply bent booms, or indirectly by means of booms and stick connectives. Occasionally a double outrigger is used. One float is attached to either side of the dugout by means of two long bamboo booms, which cross over and are lashed to the hull. This type is poled in shallow water. The second type is

similar to the first, except that the hull is built up on either side by means of washstrakes, which are nailed from bow to stern. The first type, perhaps also the second, is probably a crude survival of ancient inshore types of native canoes. The third type, used by Japanese fishermen according to Hornbostel (16), is probably intrusive.

Hornbostel reported that he saw the *popo* type of Yap canoe under construction in Saipan. A large *popo* was 35 by 4 feet, whereas a small one was 15 by 3 feet.

According to Hornbostel's sketches, the outrigger was indirectly attached to the five-piece, built-up hull of breadfruit, which was painted black, white, and ochre. A lateen sail was attached to the bow. No such canoes are seen in present-day Guam.

My informants in Guam said that rafts made of bamboo slats, lashed together, were used to cross rivers, until the recent construction of bridges by the Naval Government. I saw no such rafts on the island. Probably the bamboo raft was a survival from ancient times.

HOUSES

There are several early accounts of Chamorran houses. Pigafetta (3, vol. 33, p. 99) wrote as follows: "Their [the Chamorros'] houses are all built of wood covered with planks and thatched with leaves of the fig-tree (i.e., banana tree) two brazas long; and they have floors and windows. The rooms and the beds are all furnished with the most beautiful palm-leaf mats. They sleep on palm straw which is very soft and fine."

According to Burney (4, vol. 1, p. 258),

Gaspar and Grijalva [of the Legazpi expedition which visited Guam in 1565] both describe the houses of these people [the Chamorros], that they were lofty, neatly built, well divided into apartments; the whole raised a story from the earth, and supported upon strong pillars of stone. . . . Besides these dwelling houses they had others for their canoes, built likewise with great stone pillars, one of which, near the watering place, contained four of their largest canoes.

The report of the Legazpi expedition, according to Blair and Robertson (3, vol. 2, p. 113), was as follows:

Their houses are high, and neatly and well made—some, placed on posts of stone, served as sleeping apartments; other houses were built on the ground, and in them the cooking and other work was done. They had other large buildings that served as arsenals for all in common, wherein the large boats and the covered canoes were kept. They were very spacious, broad, and high, and worth seeing.

Sanvitores (14, April 1937, p. 21) reported, "The houses are the cleanest that have yet been found among *Indios*; built of coconut and maria [*Calophyllum inophyllum*] wood with roofs of coconut leaves curiously woven. They have four rooms, with doors or curtains of the same matting. One serves

as sleeping room, another for storing goods, one as kitchen and the fourth is large enough in which to build and store boats." Elsewhere (14, July 1937, p. 10; May 1937, p. 20), he added that the Chamorros buried their dead beneath certain of their houses and that property was ceremonially destroyed on death of a chief or noble.

The ancient Chamorros apparently had several types of houses. Most spectacular were those built upon stone pillars, the ruins of which (called *latte* by the modern natives) are found in the fertile districts of the Marianas (Thompson, 28, pp. 8-20). I have discussed the types and construction of these houses elsewhere (30), with the following conclusions:

. . . there were evidently at least two types of houses built on stone pillars in the Marianas, namely pile houses and canoe sheds. The details of construction of these house types, however, are by no means clear. Concerning the pile houses, we know that the roofs were thatched. The floors were raised above the ground and the floor space was divided into compartments which probably served as sleeping rooms, kitchens, storage, carpentry shops, etc. The walls of some houses at least had openings which served as windows. The ground under the houses was used for burials, accompanied by broken artifacts. We may safely assume that at least some of the pile houses served as men's clubs. It is probable that club houses resembling the Pelewan keldok-bay type (18, pp. 221-225, pl. 29; figs. 5, 5a, 6, 6a) were built on twelve pillared *latte*, while houses resembling in structure the modern Chamorro pile dwellings (described below) were built on smaller *latte*. Concerning canoe sheds, we may definitely infer that at least some *latte* built along the shore with long axes perpendicular [at right angles] to the shore line served this purpose. Moreover it is probable that canoe sheds in the Marianas resembled sheds built for housing war canoes in the Pelews [Palau Islands] (18, pp. 265-266, pl. 48, figs. 5, 6) except that the thatched roof was supported by capped stone uprights instead of wooden posts.

Since the number of *latte* which have been found in the Marianas are by no means sufficient to have housed the entire ancient population, we conclude that the majority of the people lived in other types of dwellings. Of these no trace, such as stone platforms or house mounds, has been found. It is possible that at least some wooden dwelling houses were raised on wooden piles in ancient times, as they are in present-day Guam.

The most common type of dwelling in modern Guam has been illustrated by Safford (26, pl. 20). It is a rectangular gabled house raised on piles of hard wood. The ridgepole is supported under the rafters and a king post is absent. The walls are of planks, split bamboo, or thatch composed of *nipa* (*Nipa fruticans*), introduced from the Philippines (26, p. 334), of pandanus or of *nete* (*Xiphagrostis floridula* = *Miscanthus japonicus*). Occasionally sheet iron is used. The wooden piles are built in two parallel rows, usually of four posts each, according to a ground plan of the same form and dimensions as that of small *latte*. The floor space is divided by a wooden partition into two compartments, a living room and a bedroom. An outhouse attached to the rear serves as a kitchen. Possibly this house is a modification of an ancient type of dwelling.

In early times other house types were built directly on the ground. Though according to the Legazpi account, such houses were used for cooking and other work, it is possible that they served as dwellings for people of low rank. Some were probably of the type called *sadigane*, thought by modern natives of Guam to be old Chamorro. The *sadigane* is a double lean-to, with the ridgepole supported by two median posts. The coconut-leaf thatch is lashed to bamboo rafters, extending from the ridgepole to the ground. The floor is composed of bamboo or betel palm logs. The type has been illustrated by Safford (26, pl. 20 left). A somewhat similar, but more elaborate, type with end wall was shown by Freycinet (10, pl. 62 center).

HOUSEHOLD IMPLEMENTS

Wooden agricultural implements, spears, and images have been mentioned, but little is known about the wooden bowls used by the ancient Chamorros. A wooden trough (*saluhan*), raised on forked stakes, was illustrated by Freycinet (10, pls. 79, 27). The Loyasa account (4, vol. 1, p. 139) reported that water was brought to the ships in calabashes.

STONE WORK

From the archaeological remains we have obtained much valuable information concerning the stone industry of the ancient Chamorros. At the time of discovery, the Marianas were in the polished stone age and metal tools were the most valued articles which they received from the early navigators.

Stone work was highly developed, as shown in the variation of form and material used in the construction of capped uprights (pl. 3, *A*) in *latte* sites, and in the pecked, ground, and polished adzes found in archaeological sites. The technique of stone chipping was also known, as shown in the flint points.

On the island of Rota in 1925, Hornbostel (16) discovered a quarry at As Nieves where uprights and caps for *latte* had been partially cut out of solid limestone. Here were also found nine uprights and caps completely finished and ready to be moved. Hornbostel assumed that the limestone for each unit had been fired in order to convert it into lime, then scraped out with a stone adz until the unit was isolated and could be moved.

Stone implements found in archaeological sites in the Marianas are composed of basalt, limestone, flint, and marble. They include adzes, axes, chisels, gouges, knives, flint scrapers and points, hammers, pounders, mortars and pestles, sinkers, and slingstones (Thompson, 28). No explanation has been found of the use of curious boot-shaped objects made of calcareous volcanic ash and called by the modern natives *sapatos taotaomona* (shoes of the ancients). One such object, a portion of which is in Bishop Museum, was found 40 inches below the surface at Apodguan, Guam. The measurements are as follows: length of foot, 10.6 cm.; width of foot, 6.8 cm.; height of instep, 4.1 cm. (28, p. 57). Another *sapatos taotaomona*, composed of limestone, was found below the surface in a cemetery at Inarajan.

SHELL WORK

Shell was worked extensively by the natives of the Marianas. Fishhooks and gorges are discussed on page 31. Regarding other shell implements, I drew the following conclusions (28, p. 53) from Hornbostel's collection and notes:

. . . shell artifacts have been found in large numbers in monument sites, associated with burials, pottery fragments, mortars and shell heaps. They have also been found in caves as well as scattered on the surface of the ground, disassociated from archaeological sites.

Most of these shell implements have been cut from specimens of *Tridacna gigas* in the early stages of growth. . . . Shell implements of *Tridacna* have been divided according to probable use into adzes, scrapers and spoons. . . . Shell cutting implements have also been made from the shell of the *Terebra maculata*, *Pterocera bryonia*, *Ostrea*, *Perna*, *Isognomon*, and *Cassis cornuta*.

Perforated disks of red *Spondylus*, found in archaeological sites (Thompson, 28, p. 56, pl. 11, *G*), are called *salape* (the term used for money by the modern natives of Guam). Chamisso (17, vol. 3, pp. 81-82) described the disks and plates of tortoise shell which he saw, as follows:

On a coarse cord of cocoa-bast are strung pieces of tortoise shell of the form of a button, but as thin as paper, pressed to each other, and extremely polished by rubbing. The whole forms a pliable roll or cylinder about the thickness of a finger, and several feet in length. These cords are said to have been current as a means of commercial intercourse and but a very few chiefs had the right to manufacture and issue them.

Plates of tortoise-shell, of the large sea-turtle, are differently pierced in the middle with a large hole, and on the broad thin edge with several smaller holes, or they have only one hole in the middle. Whoever, probably in swimming, had killed a turtle (in reality a very hazardous adventure) brought a plate of the mail to the chief, who, according to the circumstances of the deed and the assistance received in performing it, bored holes in it; the fewer of them the greater was the value. Such trophies then gave the owner a certain right to exchange them, according to established customs, for other property, and passed, in a certain manner, as means of commerce and signs of value.

For further details regarding shell "money" in the Marianas see pages 41-42.

Conus millepunctatus was cut into bracelets, some of which I saw in the Guam Museum, and rings similar to those used as ornaments in the Carolines (Thompson, 28, p. 57, pl. 11, *A*). Several other perforated shell objects were probably also used as ornaments.

BONE WORK

Among the objects of bone manufactured by the ancient Chamorros were spearheads and pointed implements, some of which were notched at one end and were probably used as needles (Thompson, 28, p. 58).

POTTERY

Although most of the pottery found in archaeological sites is crude, there are wide variations in texture of clay, in quantity and color of ware, and in

surface finish, shape, and design. Baked clay was used for cooking pots, water jars, bowls, burial urns, and slingstones.

At least three main types of pottery may be distinguished (Thompson, 28, pp. 24-32, figs. 14, 15 and pls. 3, 4, 5): (1) coarse ware, poorly tempered and fired; (2) coarse ware, well tempered and fired; and (3) thin, red slipped ware. The first type is similar in texture, form, and design, to much of the coarse ware used for cooking pots and water jars found sporadically throughout Oceania as far as Fiji, but the second and third types, both of which have been slipped, are superior in texture and finish to most Oceanic ware.

Since women are the potters in Oceania, it is probably safe to assume that pot making in the Marianas was woman's work. No convincing evidence of the presence of the potter's wheel has been found, and it is rather certain that all the early pottery was made by hand. We do not know, however, which of the two fundamental Oceanic techniques, namely "coil" (*Wulst*) or "lump" (*Treib*) (27, p. 65) was used. No traces of coils have been found on the thousands of potsherds from the Marianas which I have examined, but, since traces of coils are usually obliterated before the pot is fired, this negative evidence is inconclusive. A study of the potter's craft in adjacent islands reveals that the typical pre-Malayan lump method is used in the interior of northern Luzon, whereas the coil method is used in Yap and Palau (27, pp. 122-124, 181-183; map 1). However, the pottery of the western Carolines is crude, unornamented, and unslipped, whereas that of the northern Philippines is of finer texture and made in a variety of forms and sizes. Moreover, much of the pottery from the Philippines is coated inside and out with a resinous slip. Marianan pottery types 2 and 3 bear greater resemblance to the pre-Malayan lump ware of northern Luzon than to the crude Oceanic coiled ware of the western Carolines, which is similar to the Marianan type 1.

PLAITING

As has been stated, Pigafetta mentioned the fine mats found in Chamorran houses at the time of discovery. Mendoza (3, vol. 6, p. 140) reported receiving food and "many fine and well woven mats" in exchange for iron. The ancient Chamorran women were expert at plaiting fine mats, sails, hats, baskets, and boxes. They were familiar with both the technique of diagonal plaiting and that of right-angled plaiting, and they produced a variety of shapes, especially in basketry. Both techniques have survived to the present, and the women of modern Guam make some of the finest pandanus articles in the Pacific. Two interesting examples of right-angled plaiting are illustrated by Pellion in Freycinet (10, pl. 62); they are a cradle (*fagapsan*) and a betel box (*alan mamaon*), with several compartments and handle, a type which is still used in Guam.

Tapa making and weaving with a loom were evidently absent in the Marianas. Safford (26, pp. 96, 189) stated that the natives of Guam were neither tapa makers (since the paper mulberry, *Broussonetia papyrifera*, did not grow on this island) nor weavers (since the loom was absent), but that within the memory of some of the people living in 1900, aprons were made of the inner bark of the breadfruit when the supply of foreign cloth became exhausted during a long interval between the visits of European vessels.

EXCHANGE

Evidently there was a considerable amount of trade between the various islands of the Marianas in prehistoric times. For this the "flying *prao*" sailing canoe was used.

There is reason to believe that the Marianas also had trade relations with the western Carolines before European discovery. According to Chamisso (17, vol. 2, pp. 240-243), who derived his information from Don Luis de Torres, this contact was broken after the Spanish conquest, when many Chamorros fled from oppression to the neighboring Caroline islands. It was not renewed until 1788, when a group of Carolinians sailed to Guam to trade for iron by way of a 300-mile, star-guided route, which they had preserved in their songs (17, vol. 2, pp. 233, 240-241; vol. 3, p. 83). They were favorably received and they promised to return the next year, but the fleet encountered a storm and was lost. Regular intercourse between the Marianas and the western Carolines was re-established in 1805 after the visit of Don Luis de Torres to Ulle. At that time, according to Chamisso (17, vol. 2, pp. 242-244), 18 canoes assembled every year at the island group of Lamureck, whence they sailed to Fojo (a desert island lying to the north, which they reached in two days), where they rested. From Fojo, the fleet sailed in three days to Guahon (Guam). They visited Guam in April and commenced their voyage home in May or, at the latest, June; after June the southwest monsoon became dangerous.

The Carolinians obtained iron in exchange for canoes, transportation, and messenger service between the Marianas Islands. They also exchanged craft articles, such as woven cloth, pots, wooden boxes, shells, and cord, for tobacco, pipes, and trade cloth. Moreover, according to Suarez, former Chief Commissioner of Guam, the men of Yap came to Guam to obtain stone (crypto-crystalline silica), which they made into perforated disks (called *acho yap*) 12 inches in diameter, used as money in Yap.

According to historical sources, objects of shell were used as exchange media in the Marianas. Freycinet (11, pp. 487-488) stated that by the time he visited Guam (1819) native shell "money" was difficult to find because most of it had been collected and sold in China. Little information in this regard can be obtained from the archaeological sources, for objects of tortoise

shell have not been preserved in *latte* sites. However, perforated disks of *Spondylus*, similar to those of tortoise shell described by Chamisso and Freycinet (10, pls. 79, 14, 23), have been found (Thompson, 28, pp. 56-57).

The following account of the shell "money" used in the group has been condensed from that of Freycinet, based on information obtained mainly from Don Luis de Torres in Guam in 1819 (11, pp. 311, 486-487).

Under the generic name of *alas* were included two types of shell disk necklaces: (1) the *guini* (10, pl. 79, figs. 14, 15), a string of thin, regular, perforated disks, in width slightly less than the little finger and in length such that it hung down to the navel, after having passed twice around the neck; (2) the *lukao-hugua* (10, pl. 79, figs. 23, 24), a string of thin, regular, perforated disks about the width of a thumb and the length such that, when hung around the neck, it reached the hip. Both the *guini* and the *lukao-hugua* illustrated by Freycinet are composed of tortoise shell. A fragment of a string of shell disks was called *ghintus*. A simple tortoise shell plate was called *lailai*; a tortoise shell plate perforated according to rule by the chief was called *pinipu*. The value of a *pinipu* was as many times three *lailai* as there were perforations in it. Thus a *pinipu* pierced with four holes was worth 12 *lailai*. The relative value of Marianas shell disks was as follows:

- 1 *pinipu* with 1 perforation: 3 *lailai*
- 1 *pinipu* with 2 perforations: 6 *lailai* or 1 *guini*
- 1 *pinipu* with 3 perforations: 9 *lailai*
- 1 *pinipu* with 8 perforations: 24 *lailai* or 1 *lukao-hugua*

The value of a *ghintus* depended on its length. It was worth more than a *lailai* and less than a *guini*. The shell object of highest value was a *guineha famaguon*, a chest ornament worn by men. It was shaped like an elongated, truncated cone, about the diameter of six thumbs at the base and of one thumb at the point. It was composed of disks of shell. The *guineha famaguon* was considerably more valuable than other types of shell "money", but its exact value could not be measured in terms of them.

From the above account, it appears that the ancient Chamorros had several types of "valuables" which fulfilled, wholly or in part, some of the essential functions of money (31, p. 36). Freycinet defines five classes of valuables, namely *guini*, *lukao-hugua*, *lailai*, *pinipu*, and *guineha famaguon*. These served as instruments by which value could be condensed, accumulated, and, to a limited extent, exchanged. The first four, at least, served within limitations as measures of value and standards of deferred payment. There were two interrelated systems by which value could be measured, namely the *guini-lukao-hugua* system of shell-disk necklaces and the *lailai-pinipu* system of tortoise-shell plates. The value of each unit in one system could be expressed in terms of the other. The extent to which other objects of exchange could be valued in terms of these valuables, however, has not been recorded.

SUMMARY

After over 400 years of contact with the outside world, the ancient Chamorro culture has been altered almost beyond recognition by outside influences, chiefly from Spain, the Philippines, and America. No pure-blooded natives survive; and only the Chamorro language, which belongs to the Malayo-Polynesian stock, persists, with slight alterations and accretions, as an integrated functioning link with the past.

From a critical study of the scant available evidence from archaeological remains, historical sources, and the ethnography of the modern inhabitants of Guam, however, a general picture of the natives and their culture emerges.

Although the indigenous physical type has not yet been studied and classified systematically, it is clear that the ancient Chamorros were tall, big boned, and muscular, with tawny skins and long black hair. This early type persists in the rural districts of Guam. Most of the modern natives, however, especially those who live in Agana and around the port of Apra, are shorter, finer boned, and lighter skinned than the indigenous inhabitants. The ancient Chamorros were agile, ingenious, laughter-loving and gay, traits found in modified form among the modern natives of Guam.

Except on ceremonial occasions, the men formerly wore no clothing except hats and sandals, and the women wore but a scant fringe or apron. The teeth of both sexes were discolored from chewing betel with lime, and those of some natives were blackened or filed on the labial surface.

The ancient Chamorros had an elaborate social organization with matrilineal clans living in scattered villages and hamlets, which were organized into districts under local chiefs. The power of the chiefs was based mainly on inherited wealth in the form of land and on economic prerogatives, such as the manufacture of shell "money" and sailing canoes. Society was divided into three classes, the upper two consisting of sailors, carpenters, fishermen, and warriors, professions tabu to the underprivileged and physically inferior lowest class.

An ancestor cult, expressed in invocation of ancestral skulls by a class of shamans in times of war, drought, or sickness, was an outstanding feature of the religion. Organized priesthood and temples were absent. Social ceremonial centered in exchanges of food and property, dances, games, and chants. Warfare, an outgrowth of inter-district rivalry, was common, the main weapons being spears which were tipped with human bones, and slings. The dead were believed to inhabit an underworld paradise and were buried under houses, in caves, and in urns.

The economy of the ancient Chamorros was the usual south sea type, based on gardening in clearings in the bush, collecting in the jungle, and fishing. Horticulture differed from that of most island groups east of Indonesia, how-

ever, in that rice was cultivated in addition to the usual tubers, such as yams and taro. Breadfruit, coconuts, and bananas, as well as jungle foods such as the Polynesian arrowroot and federico nut, were also among the staples. Fish, turtles, fowl, bats, and coconut crabs were important foods, but the pig and the dog apparently were not present at the time of discovery.

Organized craftsmanship, based on abundant resources from both the volcanic and limestone types of geological formation, was well developed. Outstanding were stone work, including stone house piles and polished stone implements; wood work, including the famous asymmetrical sailing canoe; and pottery. The paper mulberry and tapa making techniques were absent and the loom was evidently not used. Exchange, which occurred between the Marianas and the Carolines, as well as among the various islands of the Marianas group, was facilitated by means of shell "money."

From the foregoing it is clear that the ancient Chamorros had a highly developed neolithic culture which rivaled in interest the high centers of central and marginal Polynesia. It was outstanding because of its marginal social organization and ingenious technology. Not only its unique stone work, but other manual industries, such as canoe building and pot making, reached a high standard in functional craftsmanship. In fact the complex as a whole shows considerable adaptability on the part of the ancient Chamorros in dealing with practical problems.

Interesting similarities to the Chamorro culture are found at the "Indonesian" or pre-Malayan level in the Philippines, as well as in the western Carolines and in early Polynesian culture as a whole. A comparative study, however, lies outside of the scope of this work.

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A



B

A, OLD SPANISH BRIDGE ACROSS THE ACHUGAO RIVER, ON COAST NORTH OF CETTI BAY; B, SPANISH STEPS FROM CLIFF TO BEACH BELOW OROTE POINT LIGHTHOUSE.



A



B

A, TOWN OF AGANA. B, VIEW ACROSS APRA HARBOR FROM THE CABLE STATION AT SUMAY; RIGHT END OF HIGH LAND IN DISTANCE IS MOUNT TENJO.



A



B



C

A, MONUMENT AT THE MEPO SITE, GUAM, ONLY UPRIGHT SURMOUNTED BY CAP FOUND IN PLACE IN GUAM, HEIGHT ABOVE GROUND, 7 FEET 5 INCHES; B, UPRIGHT AT ORUNO SITE; C, BURIAL.

